

Notice of Allowability

Application No.

09/746,155

Examiner

Chuck Kendall

Applicant(s)

GREEN ET AL.

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 05/17/2004.
2. ☒ The allowed claim(s) is/are 1-19, 21 -26 and 28-35.
3. ☒ The drawings filed on 22 December 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 5/17/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TUAN DAM
SUPERVISORY PATENT EXAMINER

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Buckert registration number (44572) on 09/02/2004.

The application has been amended as follows:

IN THE CLAIMS:

2. Please amend claims 1, 18, 21,23,29,34, 35 and Please cancel claims 20.

Claim 1 (currently amended)

At lines 19 – 20, after “rule,” delete [the assembly rules comprising association rules];

At lines 20-21, after “ associated” delete [with at least one other tier and linkage rules by which each tier is]; and

At line 21, before “ linked” insert and .

In claim 18, replace claim with:

Claim 18 (currently amended): A method for generating software components for use in an N tier software application, the software components having a predetermined structure, the method comprising:

providing a software component architecture comprising a plurality of tiers, wherein each tier comprises a plurality of software components and performs a predetermined function, each software component comprising a software object, each tier further comprising a predetermined set of interfaces for that tier, the interfaces defining a set of functionality capable within that tier; and specifying a set of association rules by which at least one software component developed using software component rules is associated with or disassociated from at least one tier developed with a set of tier rules;

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specifying a set of tier framework rules to provide an architected context for software, components associated with a tier;

specifying package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide specific behaviors for the tiers;

specifying a set of assembly rules by which each tier is associated and linked to at least one other tier; and

wherein at least one of the software components in a selected one of the plurality of tiers provides a predetermined set of interfaces.

Claim 20 (cancelled).

In claim 21, (currently amended)

At line 1, after “ The method of claim”, delete [20].

At line 1, before “wherein the tier framework”, insert 18 .

In claim 23, replace claim with:

Claim 23 (currently amended): A method of system design for an N-tier architecture, the architecture comprising software components and tiers, the method comprising:

determining a set of application requirements;

determining a list of software ~~required module~~ and components to satisfy the application requirements, wherein each software components comprises a software object;

logically grouping the software components into extensible tiers, the tiers having a set of tier rules, the tier rules comprising a set of association rules by which at least one software components developed using software component rules is associated with or disassociated from at least one tier developed with the set of tier rules, the tier rules further comprising a set of tier framework rules to provide an architected context for software components associated with a tier, the tier rules further comprising a set of package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific behaviors for the tier; specifying a set of rules by which each tier is associated and linked to at least one other tier
~~determining if each software component in each tier is available in an inventory of components;
using each software component found in the inventory if that software component is a required software component;
restructuring a portion of the software component in the inventory;
adding additional software components if no existing software component in the inventory satisfies a requirement or is modifiable to satisfy the requirement;
associating a plurality of software components with each required tier wherein each software component comprises a software object; and developing an application by defining and implementing linkages between the required tiers.~~

In claim 29, replace claim with:

Claim 29 (currently amended): A system for designing a software architecture for use in, generating software components for building software applications, the system comprising: at least one processing unit;

at least one memory store operatively connected to the processing unit;

N-tier design software executable within the at least one processing unit, wherein

each tier comprises a plurality of software components and performs a predetermined

function, each software component comprising a software object;

software architecture specifications resident in the memory store for use by the N tier design

software, the software architecture specifications comprising specifications for a set of software

component rules for developing software components, specifications of a set of tier rules for

developing tiers, and specifications of a set of assembly rules the tier rules comprising a set of

association rules by which at least one software component developed using software component

rules is associated with or disassociated from at least one tier developed with a set of tier rules,

the tier rules further comprising a set of tier framework rules to provide an architected context for

software components associated with a tier, the tier rules further comprising a set of package rules

to provide for logical grouping of interfaces within a framework defined by the tier framework rules

to provide a set of specific behaviors for the tier, the set of assembly rules associating and linking

each tier with at least one other tier;

an input device, operatively in communication with the processing unit, for permitting input of the

software architecture specifications; an output device, operatively in communication with the

processing unit; and a communications pathway operatively connected to the processing unit.

In claim 34, replace claim with:

Claim 34, (currently amended): An N-tier software architecture stored in a storage media, the storage media comprising;

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a first plurality of binary values for developing software components using software component rules;

a second plurality of binary values for developing a plurality of tiers using tier rules

wherein each tier comprises a plurality of software components and performs a

predetermined function, each software component comprising a software object, the

tier rules comprising a set of association rules by which at least one software component developed

using software component rules is associated with or

disassociated from at least one tier developed with the set of tier rules, the tier rules

further comprising a set of tier framework rules to provide an architected context for software

components associated with a tier, the tier rules further comprising a set of

package rules to provide for logical grouping of interfaces within a framework

defined by the tier framework rules to provide a set of specific behaviors for the tier;

and

a third plurality of binary values for assembling software applications from tiers and software

component, the third plurality of binary value associating and linking each tier with at least one

other tier.

In claim 35, replace claim with:

Claim 35 (currently amended): An article of manufacture, comprising;

a computer storage medium having a computer program encoded therein for
designing a software architect for utilizing software components in building multiple tier software
applications, the computer storage medium including:

code for specifying a set of software component rules for developing software components wherein each software component comprises a software object;

code for specifying a set of tier rules for developing a plurality of tiers wherein each tier comprises a plurality of software components and performs a predetermined function, the tier rules comprising a set of association rules by which at least one software component developed using software component rule is associated with or disassociated from at least one tier developed with the set of tier rules, the tier rules further comprising a set of tier framework rules to provide an architected context for software components associated with a tier, the tier rules further comprising a set of package rules to provide or logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific behaviors or the tier;
and

code for specifying a set of assembly rules ~~having association rules~~ by which each tier is associated ~~with at least one other tier and linkage rules by which each tier is~~ and linked to at least one other tier.

Examiner's Reasons for Allowance

3. Examiner has considered Applicant's response dated 05/17/2004 and after further review of Applicant's comments, claims 1 – 19, 21 – 26 & 28 – 35 are in condition for allowance.

The following is an Examiner's statement of reasons for allowance, as Applicant pointed out under remarks section on page 15, of Applicant's response dated 5/17/2004.

The prior art of record does not teach or fairly suggest at least:

“...i) a set of association rules by which at least one software component developed using the software component rules is associated with or disassociated from at least one tier developed with the set of tier rules ;
ii) a set of tier framework rules to provide an architect context for software components associated with a tier; and
iii) a set of package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific behaviors for the tier; and
iii) specifying a set of assembly rules, the assembly rules comprising association rules by which each tier is associated with at least one other tier and linkage rules by which each tier is linked to at least one other tier”, as best illustrated by figure 4 and in such a manner as recited in each of independent claims 1,18,32 & 33.

“...logically grouping the software components into extensible tiers, the tiers having a set of tier rules, the tier rules comprising a set of association rules by which at least one software components developed using software component rules is associated with or disassociated from at least one tier developed with the set of tier rules, the tier rules further comprising a set of tier framework rules to provide an architected context for software components associated with a

tier, the tier rules further comprising a set of package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific behaviors for the tier; specifying a set of rules by which each tier is associated and linked to at least one other tier.”, as best illustrated by figure 4 and in such a manner as recited in each of independent claims 23, 29, 34, & 35

Therefore, all claims, i.e. claims 1 –19, 21 –26, & 18 – 35 are in condition for allowance. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 703-3086608. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 703-3054552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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